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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/177,815	10/23/1998	KYOUNG-SU KIM	1363.1004/MD	3622

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EXAMINER	
BROWN, RUEBEN M	

ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/177,815	KIM ET AL.	
	Examiner	Art Unit	
	Reuben M. Brown	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. Applicant argues on page 10, that the previous Office Action "would appear to have not addressed the claimed encoding of the predetermined additional information according to the extracted synchronous signal". Examiner respectfully disagrees and points out that Bestler specifically teaches that the CV encoder 80 generates a corresponding NTSC format analog composite video baseband output signal. Thus the combination of Cummins (which teaches extracting synchronous data from a video signal, col. 4, lines 45-67) with Bestler meets the claimed feature.

Applicant also acknowledges on page 10 that Cummins "discusses a method for using extracted synchronous signal during re-sampling in an (ADC) conversion of an input analog video signal", but argues that "this ADC conversion would not appear to have any relevance to an encoding of any additional information". Examiner also respectfully disagrees. Both in the prior art Figs. 1-2 and invention Fig. 3., Cummins shows that after processing, the video signals (Y-U-V format), are then passed along to the video encoder, to be displayed on the screen. The H-sync & V-sync signals are passed along to the Timing generator. Thus by combining Bestler with Cummins, the claimed subject matter is met.

The finality of the office action mailed 2/27/06 has been withdrawn. The present office action is thus made final.

Applicant asserts on page 8 that Jeon, et al., is not prior art under 35 USC 103(C), since it has the same assignee as the present application. However, applicant is directed to MPEP 706.02(k), which states that the provision is applied to applications filed on or after November 29, 1999. The present application was filed 10/23/1998 and therefore does not meet the criteria for the instant provision.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5 & 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bestler (U.S. Pat # 5,638,112), in view of Cummins, (U.S. Pat # 5,784,120) & Devaney, (U.S. Pat # 6,357,045).

Considering amended claim 1, the claimed method of receiving an analog broadcasting signal and a digital broadcasting signal, comprising 'selecting one of a digital broadcasting channel and an analog broadcasting channel', is met by Bestler, which teaches a hybrid digital

broadcast receiver that selectively tunes and receives either an analog or digital TV channel, see col. 2, lines 3-11.

Particularly, Bestler teaches receiving an analog or digital signal according to which channel is tuned. It is taught that if a digital broadcasting channel is selected, then a digital broadcasting signal is received, and the digital demodulator 34 processes the received digital broadcasting signal, col. 2, lines 19-26, (Fig 1). The recited feature of 'separating the digital broadcasting signal into an MPEG processed video signal and MPEG processed audio signal' is met by the operation of the MPEG decoder 40, col. 2, lines 36-45.

The additionally claimed feature of 'encoding the MPEG processed video signal separated from the broadcasting signal reads on the operation CV encoder 80'. Furthermore, Bestler teaches that the mixer combines processed MPEG data with an overlay, and additional information, which reads on the further claimed feature of, 'transmitting the additional information overlapped with the processed video signal separated from the digital broadcast signal in accordance with the encoding of the MPEG processed signal'.

As for the further recited feature of, 'if an analog channel is selected, then receiving the analog broadcasting signal' is processed by the tuner 14, col. 2, lines 3-8. Bestler meets 'separating the analog broadcast signal into analog broadcast audio & analog broadcast video signal', col. 2, lines 40-65, which teaches that the analog audio is provided to the MTS decoder 44, whereas the analog video is provided to the CV decoder 72. Regarding the claimed step of

'extracting a synchronous signal from the received analog broadcasting signal', Bestler teaches that a composite analog signal (which by definition includes synchronous signals) is output by the analog demodulator 28. Next, the YUV components are digitized and fed into the normalizer 70, by the A/D converter 74.

However, Bestler does not explicitly teach extracting the synchronous signals from the composite analog signal. Nevertheless, Cummins teaches a method of extracting synchronous data from a video signal, such as vertical and horizontal sync pulses, in order to operate the system at a fixed sampling rates, (i.e., the rate detected by pulse detector 16), Abstract; col. 4, lines 61-67. Specifically, the reference discloses separating the horizontal sync or vertical sync signals from the incoming broadcast signal, and using this information to adjust the signal to a digital form. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Bestler to extract horizontal sync or vertical sync pulse signals from an analog input signal for the well-known benefits of avoiding overflow of video into buffers, which prevents distortion, (i.e., jitter), see col. 3, lines 62-64; col. 1, lines 25-40 & col. 9, lines 50-56, as taught by Cummins.

As for the further claimed features of, 'transmitting the predetermined additional information overlapped with the analog broadcast signal separated from the analog broadcast signal' Bestler does not teach the claimed feature. Nevertheless Devaney, which his in the same field of endeavor of hybrid tuning system, teaches that additional information supplied with the analog signal is supplied to the TV screen, see col. 7, lines 50-60. It would have been obvious for

one of ordinary skill in the art at the time the invention was made, to modify Bestler, with the feature of transmitting the additional information supplied with an analog signal, as taught by Devaney, at least for the desirable benefit of providing the user with all of the information that accompanies the signal.

Considering claims 2-3, Bestler teaches that the digital overlay may be converted to analog; see col. 4, lines 12-20. As for the feature of only converting to analog in response to an analog channel selection, the operation of the control signal K_a, which is input into mixer 82, corresponds with the subject matter, col. 4, lines 20-30.

Considering claim 4, Bestler teaches adjusting the value of control signal K_d, so that the graphics and text images overlay or not overlay on the video signals, col. 3, lines 35-52.

Considering claim 5, the features of claim 5, that correspond with subject matter mentioned above in the rejection of claim 1, are likewise treated. Bestler teaches a hybrid digital broadcast receiver that selectively tunes and receives either an analog or digital TV channel, see col. 2, lines 3-11. The claimed controller to determine whether an analog or digital channel is selected and generate a plurality of control signals is met by the operation of the microprocessor 18; col. 2, lines 3-5.

Particularly, Bestler teaches receiving an analog or digital signal according to which channel is tuned. If an analog channel is selected/received, then an analog signal is processed by

the analog demodulator 28. However, if a digital channel is selected/received, then the digital signal is processed by the digital demodulator 34.

The additional information process unit to generate additional information according to a first control signal is met by the OSD generator 60; col. 3, lines 32-62. Fig 1 shows a control signal from the microprocessor 18, to the OSD 60. The claimed video encoder for encoding processed MPEG video signal and the additional information into an encoded analog signal is met by the operation of the mixer 64 (which combines the MPEG video and additional data, col. 3, lines 44-47) and the NTSC encoder 80 (which creates an NTSC format analog video signal), col. 4, lines 18-23.

The claimed video mix unit to mix analog video signal from the air tuner and the encoded analog video signal is met by mixer 82, col. 4, lines 25-30. The D/A to convert MPEG audio to MPEG processed analog is met by the D/A 42. The audio selection unit to select and transmit MPEG processed analog signal and analog audio signal to a third control signal is met by composite audio encoder 52, col. 3, lines 5-10.

Considering claim 7, see col. 4, lines 29-34.

Considering claims 8 & 14, the CV decoder 72 separates the analog signal into YUV format, which then transmits the analog signal to the A/D converter 74.

Considering claims 9-10 & 16, Bestler teaches that graphics and text may be from the generator, other than received and stored in RAM, col. 4, lines 29-32.

Considering claim 11, the claimed elements of digital broadcasting receiver that correspond with subject matter mentioned above in the rejection of claim 5, are likewise treated.

Considering claim 12, the claimed feature reads on the D/A 42.

Considering claim 13, the claimed feature reads on col. 4,lines 10-20.

Considering claim 15, the claimed feature reads on the OSD generator 60.

4. Claims 6 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bestler, Cummins & Devaney as applied to claim 5 above, and further in view of Jeon, (U.S. Pat # 6,014,178).

Considering claims 6 & 17, Bestler does not teach separating the luminance/chrominance after the mixer 82. However, Jeon teaches the very technique of luminance/chrominance separation data being stored in memory for display of the instant signal, (col. 6, lines 20-30 & col. 7, lines 31-41). It would have been obvious for one of ordinary skill in the art at the time the

invention was made, to provide luminance/chrominance separation of the mixed signal at least, for benefit enhancing picture quality, as taught by Jeon, col. 1, lines 59-67.

4. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Devaney, in view of Cummins.

Considering amended claim 18, the claimed broadcast receiver which receives a digital broadcasting signal and an analog broadcasting signal, comprising a tuning unit to 'selectively receive a broadcasting signal, including a second digital broadcast signal after a first analog broadcast has been received' or 'a second analog broadcast signal after a previously tuned digital broadcast signal has been received', is met by the disclosure of Devaney which teaches that analog broadcast and digital broadcast signals may be received and displayed by the system, see Abstract; col. 4, lines 24-60. Devaney teaches that while channel surfing, the user can tune/receive analog/digital broadcast signals in succession, col. 5, lines 10-30.

As for the claimed 'processing unit to process the second digital or second analog broadcasting signals in accordance with the selection by the tuning unit, and to synchronize phases of the second digital and first analog broadcasting signals upon the tuning unit changing selection between the digital and analog broadcasting signals', Devaney does not teach the claimed subject matter. Nevertheless, Cummins teaches a method of extracting synchronous data from a video signal, such as vertical and horizontal sync pulses, in order to operate the system at

a fixed sampling rates, (i.e., the rate detected by pulse detector 16), Abstract; col. 4, lines 61-67. Specifically, the reference discloses separating the horizontal sync or vertical sync signals from the incoming broadcast signal, and using this information to adjust the signal to a digital form. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Jeon to extract horizontal sync or vertical sync pulse signals from an analog input signal for the well-known benefits of avoiding overflow of video into buffers, which prevents distortion, (i.e., jitter), see col. 3, lines 62-64; col. 1, lines 25-40 & col. 9, lines 50-56.

Considering claim 19, Cummins is particularly related to detecting the synchronous pulses from analog input signals, which reads on the claimed subject matter.

Considering claim 20, the claimed features that correspond with subject matter mentioned above in the rejection of claim 18, are likewise analyzed. As for the additional claimed feature of a video mix unit to selectively input the output of the processed digital broadcasting signal with additional information and the processed analog broadcasting signal with the additional information, the disclosure of Devaney specifically discusses merging the additional information data with the analog or digital broadcast images, see Fig. 15 & col. 7, lines 50-65.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this action should be mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

or faxed to:
(571) 273-8300, (for formal communications intended for entry)
Or:
(571) 273-7290 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown whose telephone number is (571) 272-7290. The examiner can normally be reached on M-F (9:00-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications and After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Reuben M. Brown

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PRIMARY EXAMINER